

**RESPONSE UNDER 37 C.F.R. §1.111**  
**USSN 10/025,972**

to one having ordinary skill in the art to combine the JP-11326194 reference with a light emitting element since it was well known in the art that a super radiance light emitting element provides a high power radiation device which provides a output of broad band low coherent radiation.

Applicant notes that the application text clarifies that the claimed phrase “emits light by super radiance” means emission of light in which induced emission occurs but not emission of light by laser oscillation, due to the reflective structure of the element.<sup>1</sup>

Further, the application states that the semiconductor light emitting element exhibits the following characteristics: 1) the reflectance ratio of the facet of the semiconductor light emitting element is low (in the order of less than 1%); and 2) the selectivity of the single mode is low so that light having a broad spectral width is emitted. Accordingly, the semiconductor light element is a device that emits light having a broad spectral width like that of an LED from a small facet like that of a semiconductor laser.<sup>2</sup>

By employing such a device, problems encountered by lasers that oscillate in a single mode such as fluctuations due to mode hopping noise caused by interference are prevented. Therefore, a stable signal can be obtained with regard to a measurement using ATR (attenuated total reflection). Further, as the facet size is small and the light emission source is a point light source, angular uncertainty is reduced when measuring angles as in ATR. Therefore, accurate ATR angular measurement becomes possible.<sup>3</sup>

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<sup>1</sup> See application text, page 8, ln. 25, to page 9, ln. 5

<sup>2</sup> See application text, page 27, ln. 15 to ln. 22

<sup>3</sup> See application text, page 27, ln. 23, to page 28, ln. 3

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Applicant submits that it is not clear how or why the motivation proposed in the grounds of rejection (“a super radiance light emitting element provides a high power radiation device which provides a output of broad band low coherent radiation”) would have motivated a person skilled in the art to employ the claimed “semiconductor light emitting element that emits light by super radiance” as the light source 14 shown in the JP-11326194 reference. As noted above, by providing the claimed semiconductor light emitting element, fluctuations due to mode hopping noise are avoided and angular uncertainty is reduced when measuring angles in ATR measurements. It is not clear how or why a light emitting element having a high power radiation device and providing a output of broad band low coherent radiation would achieve the same advantages accomplished by the claimed semiconductor light emitting element.

In fact, the only source of record motivation the provision of the claimed semiconductor light emitting element is the Applicant’s own application text. The application text, however, is not prior art, and, thus, cannot be used, in hindsight, against the Applicant.

For at least these reasons, Applicant submit that claim 1 is patentable over the prior art made of record.

Claims 2 and 3 each recite “a semiconductor light emitting element that emits light by super radiance”, which “is employed as said light source.”

Therefore, Applicant submits that patentability analogous to those presented in connection with the patentability of claim 1 apply to claims 2 and 3 with equal force.

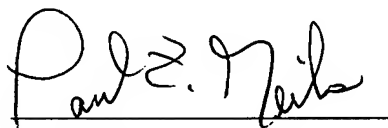
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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